ORDER NO. HAD8603423C0
A2

Service Manual

FG Servo Automatic
Turntable System

Turntable System

SL-BD22

Color	Areas
(S) (K)	[M] ..... U.S.A.
(S) (K)	[MC] ... Canada.
(S) (K)	[E] ..... Switzerland and Scandinavia.
(S) (K)	[EK] .... United Kingdom.
(S) (K)	[XL] .... Australia.
(S) (K)	[EG] ... F.R. Germany.
(S) (K)	[EB] .... Belgium.
(S) (K)	[EH] .... Holland.
(S) (K)	[EF] .... France.
(S) (K)	[Ei] ..... Italy.
(S) (K)	[EC] .... Czechoslovakia.
(S) (K)	[XA] .... Southeast Asia, Oceania, Africa, Middle Near East and Central South America.

Color

(S)..... Silver Type
(K) .... Black Type

Note:
Only models for U.S.A. and Canada are not provided with cartridge.

T4P is the standard mark for plug-in-connector system. Products carrying this mark are interchangeable and compatible with each other.

SPECIFICATIONS

■ TURNTABLE SECTION

Type: Automatic turntable
Features: Auto-return
Auto-stop
Drive method: Belt drive
Motor: DC motor
Drive control method: FG servo control
Turntable platter: Aluminum die-cast
Diameter 31.2 cm (12-9/32")
Turntable speeds: 33-1/3 rpm and 45 rpm
Wow and flutter: 0.045% WRMS (JIS C5521)
±0.06% Weighted zero to peak
(IEC 98A weighted)
Rumble: −70 dB DIN-B (IEC 98A weighted)

■ TONEARM SECTION

Type: Static-balanced straight tonearm
Plug-in-connector cartridge system
Overhang: 15 mm (19/32")
Effective length: 230 mm (9-1/16")
Tracking error angle: Within 2°32' at outer groove of 30 cm (12") disc within 0°32' at inner groove of 30 cm (12") disc
Effective mass: 13.5 g (including cartridge)
Stylus pressure: 1.25 g (Fixed)
Applicable cartridge weight: 6 g
Phono cable capacitance: 90 pF

■ CARTRIDGE SECTION (Except for U.S.A. and Canada.)

Type: Moving magnet stereo cartridge
Frequency response: 10 Hz ~ 30 kHz
Output voltage: 2.5 mV at 1 kHz, 5 cm/s. zero to peak lateral velocity
Channel separation: 22 dB at 1 kHz
Channel balance: Within 2 dB at 1 kHz

Technics

Matsushita Services Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

Panasonic Hawaii, Inc.
91-238, Kauhi St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Recommended load impedance:	47 kΩ ~ 100 kΩ
Compliance (dynamic):	12×10^{-6} cm/dyne at 100 Hz
Stylus pressure range:	1.25±0.25g (12.5±2.5mN)
Weight:	6 g (cartridge only)
Replacement stylus:	EPS-24CS

■ GENERAL

Power supply:	For U.S.A. and Canada: AC 120V, 60 Hz For United Kingdom and Australia: AC 240V, 50 Hz For Continental Europe: AC 220V, 50 Hz For Others: AC 110~127/220~240V, 50/60 Hz
Power consumption:	3 W
Dimensions: (W×H×D)	430×93×375 mm (16-15/16"×3-21/32"×14-3/4") When dust cover is open: 430×360×410 mm (16-15/16"×14-5/32"×16-1/8")
Weight:	3.6 kg (7.9 lb.)

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

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■ SAFETY PRECAUTION

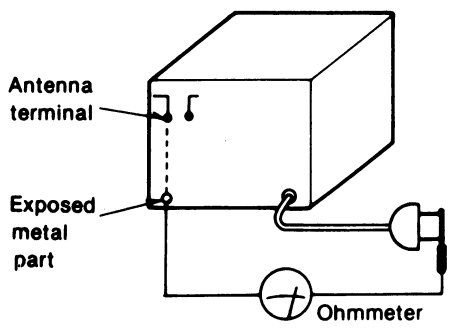
(This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

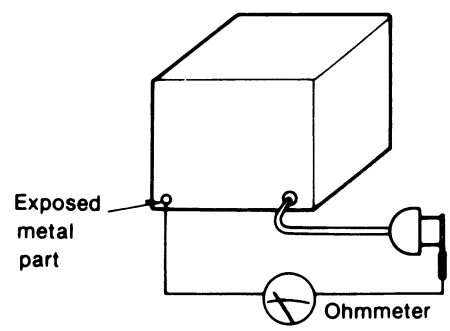
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

ORDER NO. HAD8603423C0-A

FG Servo Automatic Turntable System

SL-BD22

DEUTSCH

- This booklet includes the specifications and adjustment of Model SL-BD22 (Order No. HAD8603423C0) written in German, French and Spanish.
- File this booklet together with the service manual of Model SL-BD22.

- Dieses Büchlein umfaßt die technischen Daten und Justierungsanleitungen von Modell SL-BD22 (Bestell Nr. HAD8603423C0) in den Sprachen Deutsch, Französisch und Spanish.
- Bewahren Sie dieses Büchlein zusammen mit dem Service-Handbuch von Modell SL-BD22.

- Cette brochure comprend les spécifications et la mise au point du Modèle SL-BD22 (N° d'Ordre HAD8603423C0) écrites en allemand, en français et en espagnol.
- Classer cette brochure en même temps qu'avec le manuel de service du Modèle SL-BD22.

- Este librito incluye las especificaciones y ajuste de Modelo SL-BD22 (Pedido N° HAD8603423C0) escritas en alemán, francés y español.
- Guardar este librito juntamente con el manual servicio de Modelo SL-BD22.

DEUTSCH

■ TECHNISCHE DATEN (Spezifikationen Können infolge von Verbesserungen ohne Ankündigung geändert werden.)

■ PLATTENSPIELER

Typ:	Automatischer Plattenspieler
Eigenschaften:	Rückführautomatik Stopautomatik
Antrieb:	Riemenantrieb
Motor:	Gleichstrommotor
Antriebsregel-Methode:	FG-Servo-Steuerung
Plattenteller:	Aluminium-Spritzguß Durchmesser 312 mm
Plattenteller-Drehzahlen:	33-1/3 und 45 U./min.
Gleichlaufschwankungen:	0,045% WRMS (JIS C5521) ±0,06% Mittelwert von null bis Spitze (IEC 98A bewertet)
Rumpeln:	−70 dB DIN-B (IEC 98A bewertet)

■ TONARM

Typ:	Statisch balancierter, gerader Tonarm Tonabnehmersystem von Einsteck-Typ
Effektive Länge:	230 mm
Überhang:	15 mm
Spurfehlwinkel:	2°32' bei der Einlaufrille einer 30 cm-Plate 0°32' bei der Auslaufrille einer 30 cm-Plate
Nadeldruck-Einstellbereich:	1,25 g (nicht einstellbar)
Zulässiges Tonabnehmergewicht:	6 g
Phonokabel-Kapazität:	90 pF

■ TONABNEHMER

Typ:	Beweglicher Magnet-Stereo-Tonabnehmer
Frequenzgang:	10 Hz bis 30 kHz
Ausgangsspannung:	2,5 mV bei 1 kHz, 5 cm/s. Null-zu-Spitze, lateral
Kanaltrennung:	22 dB bei 1 kHz
Kanalabweichung:	Innerhalb 2 dB bei 1 kHz
Empfohlene Endimpedanz:	47 kΩ~100 kΩ
Nachgiebigkeit (dynamisch):	12×10^{-6} cm/dyn bei 100 Hz
Nadeldruck bereich:	1,25±0,25 g (12,5±2,5 mN)
Gewicht:	6 g (nur Tonabnehmer)
Ersatznadel:	EPS-24CS

■ ALLGEMEINE DATEN

Stromversorgung:	220V, 50/60 Hz
Leistungsaufnahme:	3 W
Abmessungen (B×H×T):	430×93×375 mm Maximal Höhe bei geöffnetem Oberteil (Abdeckhaube): 430×360×410 mm
Gewicht:	3,6 kg

■ MESSUNGEN UND JUSTIERUNGEN

JUSTIERUNG DER TONARMLIFTHÖHE

Die Tonarmlifthöhe, d.h. der Abstand zwischen Nadelspitze und Schallplattenoberfläche bei Liftsteuerungs-Position "▽", wurde werkseitig auf ca. 5—7 mm eingestellt. Falls der Abstand zu groß oder zu klein ist, drehen Sie die Justierschraube im Uhrzeigersinn oder entgegen dem Uhrzeigersinn.

Drehung im Uhrzeigersinn

—Der Abstand zwischen der Platte und der Nadelspitze wird kleiner.

Drehung entgegen dem Uhrzeigersinn

—Der Abstand zwischen der Platte und der Nadelspitze wird größer.

JUSTIERUNG DES ABSCHALTPUNKTES DER AUTOMATIK

1. Setzen Sie zuerst den Nadelschutz auf.
2. Die Gummikappe abnehmen.
3. Führen Sie den Tonarm gegen die Plattenmitte.
   Die Justierschraube für den Abschaltpunkt der Automatik wird dann sichtbar.

Falls der Tonarm zu früch zurückkehrt:

—Entgegen dem Uhrzeigersinn drehen.

Falls der Tonarm nach Erreichen der Auslaufrille nicht zurückkehrt:

—Im Uhrzeigersinn drehen.

DREHZAHL-FEINEINSTELLUNG (Tonhöhe-Regelung)

Am Plattenteller sind Stroboskoppunkte eingefrast, die zur Anzeige der korrekten Drehzahl dienen. Wenn die Stroboskoppunkte bei der Drehung des Plattentellers zu fließen scheinen, regeln Sie während des Abspielens einer Schallplatte.

1. Stellen Sie den Drehzahl-Wahlschalter auf die zu regulierende Drehzahl ein.
2. Betrachten Sie das Punktemuster an der Seite des Plattentellers.
   Drehen Sie den Drehzahl-Feineinsteller links- oder rechtsherum, bis die Punkte stillzustehen scheinen. Dieser Zustand stellt die korrekte Drehzahl dar.
3. Durch Drehen des Drehzahl-Feineinstellers in der "+"-Richtung wird die Drehzahl erhöht.
4. Durch Drehen des Drehzahl-Feineinstellers in der "—"-Richtung wird die Drehzahl verringert.

DREHZAHL

Wenn das Plattenteller-Antriebs-/Regel-IC (IC101) oder der Drehwiderstand (VR101, 102) ausgetauscht wird, oder wenn die Nenndrehzahl auch durch Drehen Drehzahlreglers nicht erreicht werden kann, so ist die Drehzahl auf folgende Weise zu justieren.

1. Den Drehzahl-Wahlschalter in die "45"-Position stellen.
2. VR101 von der Unterseite des Gerätes her mit einem Schraubendreher auf die Nenndrehzahl (45 U/min) drehen und die Drehzahl während der Justierung mit einem Stroboskop prüfen.
3. Den Drehzahl-Wahlschalter in die "33"-Position stellen.
4. VR102 von der Unterseite des Gerätes her mit einem Schraubendreher auf die Nenndrehzahl (33 U/min) drehen und die Drehzahl während der Justierung mit einem Stroboskop prüfen.

Anmerkung: Die Justierung für 45 U/min muß unbedingt zuerst durchgeführt werden.

FRANÇAIS

■ CARACTERISTIQUES (Sujet à changement sans preavis.)

■ PLATINE DE LECTURE

Type:	Platine automatique
Caractéristiques:	Retour automatique Arrêt automatique
Système d'entraine-ment:	Entraînement par courroie
Moteur:	Moteur C.C.
Groupe de réglage:	Servocommande du générateur de fréquence
Plateau de lecture:	En aluminium moulé sous pression Diamètre 312 mm
Vitesses de rotation:	33-1/3 et 45 t/p.m.
Pleurage et scintillement:	0,045% de valeur efficace (JIS C5521) ±0,06% mesuré de zéro à crête (IEC 98A Pondéré)
Ronflement:	−70 dB DIN-B (IEC 98A Pondéré)

■ BRAS DE LECTURE

Type:	Bras de lecture rectiligne statiquement équilibré Système de cellule de lecture à connecteur enfichable
Longueur effective:	230 mm
Porte-à-faux:	15 mm
Angle d'erreur de piste:	En deçà de 2°32' au sillon extérieur d'un disque de 30 cm En deçà de 0°32' au sillon intérieur d'un disque de 30 cm
Plage de réglage de la pression d'appui:	1,25 g (Fixé)
Poids des cellules pick-up utilisables:	6 g
Capacitance du câble phono:	90 pF

■ CELLULE PICK-UP

Type:	Cellule pick-up stéréo à aimant mobile
Réponse en fréquence:	10 Hz à 30 kHz
Tension de sortie:	2,5 mV à 1 kHz, 5 cm/s. zéro à vitesse latérale de crête
Séparation des canaux:	22 dB à 1 kHz
Equilibrage des canaux:	En deçà de 2 dB à 1 kHz
Impédance de charge recommandée:	47 kΩ~100 kΩ
Elasticité (dynamique):	12×10^{-6} cm/dyne à 100 Hz
Plage de la force verticale d'appui:	1,25±0,25 g (12,5±2,5 mN)
Poids:	6 g (cellule seule)
Pointe de lecture de remplacement:	EPS-24CS

■ GENERALITES

Alimentation:	220V, 50/60 Hz
Consommation:	3 W
Dimensions (L×H×P):	430×93×375 mm Hauteur maximum lorsque le couvercle protège-poussière est ouvert: 430×360×410 mm
Poids:	3,6 kg

■ MESURAGES ET REGLAGES

MISE AU POINT DE LA HAUTEUR DE L'ÉLÉVATEUR DU BRAS

La hauteur de l'élévateur du bras (distance entre l'extrémité de la pointe de lecture et la surface du disque, lorsque la commande de pose et de relevage est à la position "▽") a été réglée en usine sur approximativement 5 à 7 mm.
Si l'écartement est trop étroit ou trop large, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens contraire.
Rotation dans le sens des aiguilles d'une montre.
—La distance entre la surface du disque et l'extrémité de la pointe de lecture diminue.
Rotation dans le sens contraire des aiguilles d'une montre.
—La distance entre la surface du disque et l'extrémité de la pointe de lecture augmente.

MISE AU POINT DE LA POSITION DE RETOUR AUTOMATIQUE

1. Bloquer le bras de lecture sur le support du bras.
2. Retirer le capuchon en caoutchouc.
3. Avec un tournevis, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens inverse selon la nécessité.

Si le bras de lecture tend à revenir vers le support du bras avant que l'audition ne soit terminée,
—tourner dans le sens contraire des aiguilles d'une montre.
Si le bras de lecture ne peut revenir en arrière après le dernier sillon,
—tourner dans le sens des aiguilles d'une montre.

RÉGLAGE DE LA VITESSE (commande d'écart)

Il y a des lignes stroboscopiques sur ce plateau de tourne-disque pour indiquer la vitesse rotationnelle correcte.
Si la ligne stroboscopique semble se déplacer dès que la platine tourne, ajuster en faisant jouer un disque.
1. Régler le sélecteur de vitesse sur la vitesse devant être mise au point.
2. Observer l'image des points sur le côté du plateau. Tourner la commande d'écart dans un sens ou dans l'autre jusqu'à ce que les points apparaissent immobiles. Cela représentera la vitesse exacte.
3. En tournant la commande d'écart dans la direction "+" on augmente la vitesse.
4. En tournant la commande d'écart dans la direction "−" on diminue la vitesse.

VITESSE DE ROTATION

Lorsque le circuit intégré (IC101) de commande/dispositif d'entraînement de la platin ou les résistances variables (VR101, 102) sont changés, ou si la rotation nominale n'est pas atteinte même lorsque la manette de réglage d'écart est tournée, ajuster la vitesse de rotation selon la procédure suivante.
1. Régler le commutateur-sélecteur de vitesse sur la position "45".
2. Tourner VR101 avec un tournevis à partir de la face inférieure de l'appareil sur la rotation nominale (45 t/p.m.) et vérifier la rotation avec un stroboscope tout en réglant la vitesse.
3. Régler le commutateur-sélecteur de vitesse sur la position "33".
4. Tourner VR102 avec un tournevis à partir de la face inférieure de l'appareil sur la rotation nominale (33-1/3 t/p.m.) et vérifier la rotation avec un stroboscope tout en réglant la vitesse.

Nota: S'assurer d'effectuer tout d'abord le réglage pour 45 t/p.m.

ESPAÑOL

■ ESPECIFICACIONES (Estas especificaciones están sujetas a cualquier cambio sin previo eviso.)

■ SECCION DEL PLATO GIRATORIO

Tipo:	Plato giratorio automático
Ventajas:	Retorno automático Parada automática
Método de accionamiento:	Accionamiento por correa
Motor:	Motor de corriente continua
Método de control de accionamiento:	Servocontrol por generator de frecuencias
Platillo del plato giratorio:	Aluminio fundido Diametro 312 mm
Velocidades del plato giratorio:	33-1/3 y 45 rpm
Ululaciones y trémolo:	0,045% WRMS (JIS C5521) ±0,06% ponderado de cero a la cresta (IEC 98A Ponderado)
Ruido de rodadura:	−70 dB DIN-B (IEC 98A Ponderado)

■ SECCION DEL BRAZO SONORO

Tipo:	Brazo sonoro recto con equilibrio estático Systema de cartucho con conector enchufable
Longitud efectiva:	230 mm
Proyección:	15 mm
Angulo de error de seguimiento:	Inferior a 2°32' en el surco exterior de un disco de 30 cm Inferior a 0°32' en el surco interior de un disco de 30 cm
Presión de la aguja:	1,25 g (Fija)
Preso de cartucho utilizable:	6 g
Capitancia del cable del fonógrafo:	90 pF

■ SECCION DEL CARTUCHO

Tipo:	Cartucho estereofónico de imán móvil
Respuesta de frecuencia:	10 Hz a 30 kHz
Voltaje de salida:	2,5 mV a 1 kHz Con velocidad lateral de cero a cresta de 5 cm/s
Separación de canales:	22 dB a 1 kHz
Equilibrio de canales:	Sin exceder 2 dB a 1 kHz
Impedancia de carga recomendada:	47 kΩ a 100 kΩ
Elasticidad (dinámica):	12×10^{-6} cm/dina a 100 Hz
Radio de presión de la aguja:	(12,5±2,5 mN)
Peso:	6 g (cartucho sólo)
Aguja de recambio:	EPS-24CS

■ EN GENERAL

Alimentación de corriente:	110~127/220~240V, 50/60 Hz
Consumo de corriente:	3 W
Dimensiones: (Ancho×Alto×Prof.)	430×93×375 mm Altura máxima cuando la tapa contra el polvo está abierta: 430×360×410 mm
Peso:	3,6 kg

■ MEDICIONES Y AJUSTE

AJUSTE DE LA ALTURA DE ELEVACIÓN DEL BRAZO

La altura de elevación del brazo (o sea, la distancia entre la punta de la aguja y la superficie del disco cuando el control de colocación está en la posición "▽") ha sido regulada en la fábrica aproximadamente entre 5 y 7 mm.
En caso que la distancia fuese demasiado abundante o demasiado escasa, girar el tornillo de ajuste hacia la derecha o hacia la izquierda.
Rotación hacia la derecha
—reduce la distancia entre el disco y la punta de la aguja.
Rotación hacia la izquierda
—aumenta la distancia entre el disco y la punta de la aguja.

AJUSTE DE LA POSICIÓN PARA RETORNO AUTOMÁTICO

En caso que la aguja no se depositara en el surco de comienzo, regular de la manera que sigue.
1. Sujetar el brazo sonoro al apoyo del mismo con la grapa.
2. Quitar la tapita de goma.
3. Girar el tornillito de ajuste hacia la derecha o hacia la izquierda usando un destornillador, según sea necesario.

Quando el brazo sonoro tienda a volver a su apoyo antes de terminar la ejecución:
—Girar hacia la izquierda.
En caso que el brazo sonoro no vuelva después de haber tocado el útimo surco del disco:
—Girar hacia la derecha.

AJUSTE DE LA VELOCIDAD (control de altura del sonido)

En el platillo de este plato giratorio hay talladas líneas estroboscópicas para indicar la velocidad de rotación correcta. Si la línea estroboscópica aparenta moverse en la dirección en que lo hace el plato giratorio, ajustar mientras se toca un disco.
1. Poner el selector de velocidad a la velocidad a la que habrá de ser ajustado.
2. Mirar el patrón de puntos del lado del platillo.
   Girar el control de altura de sonido en cualquiera de los sentidos hasta que los puntos den la sensación de no moverse. Ésta será la velocidad correcta.
3. Girando el control de altura de sonido en el sentido "+", la velocidad aumenta.
4. Girando el control de altura de sonido en el sentido "−", la velocidad disminuye.

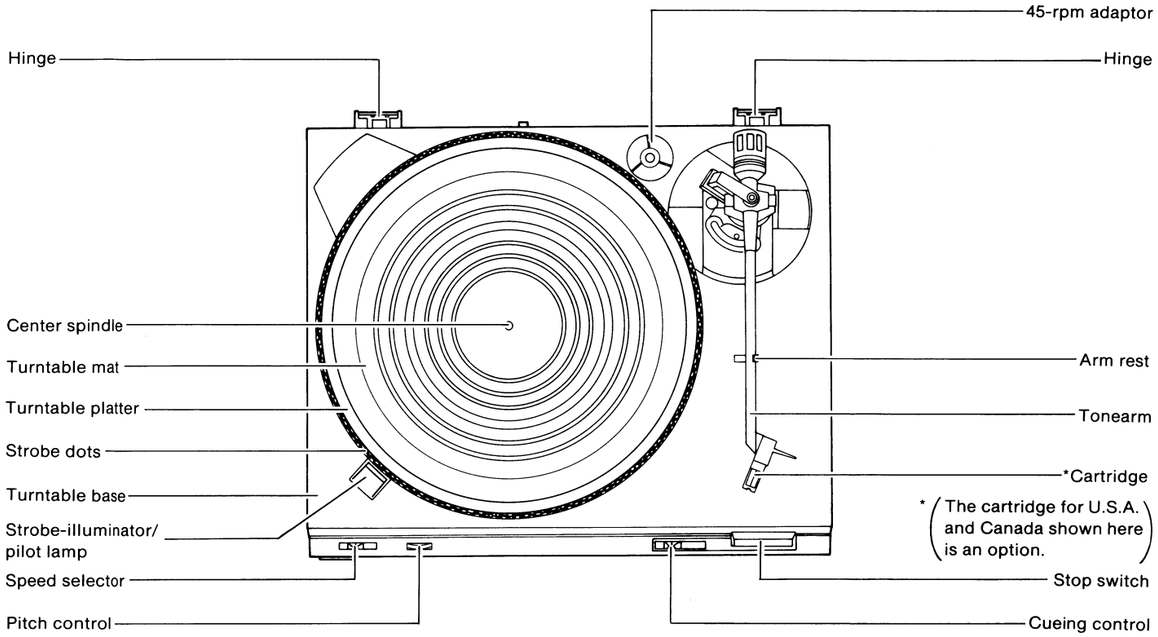
VELOCIDAD GIRATORIA

Cuando el C1 (IC101) de accionamiento/control del plato giradiscos o los resistores variables (VR101, 102) son cambiados, o si la rotación nominal no es alacanzada, aun cuando la perila de control del paso es girada, ajuste la velocidad giratoria con el siguiente procedimiento.
1. Ponga el interruptor selector de velocidad en la posición "45".
2. Gire VR101 con un destornillador desde la parte inferior del aparato a la velocidad nominal (45 rpm) y compruebe la rotación con un estroboscopio mientras ajusta la velocidad.
3. Ponga el interruptor selector de velocidad en la posición "33".
4. Gire VR102 con un destornillador desde la parte inferior del aparato a la rotación nominal (33-1/3 rpm) y compruebe la rotación con un estroboscopio mientras ajusta la velocidad.

Nota: Asegúrese de hacer el ajuste para 45 rpm primero.

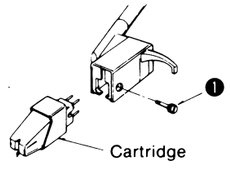
Printed in Japan
8603506200 Ⓢ HS

■ LOCATION OF CONTROLS

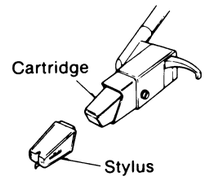


■ DISASSEMBLY INSTRUCTIONS

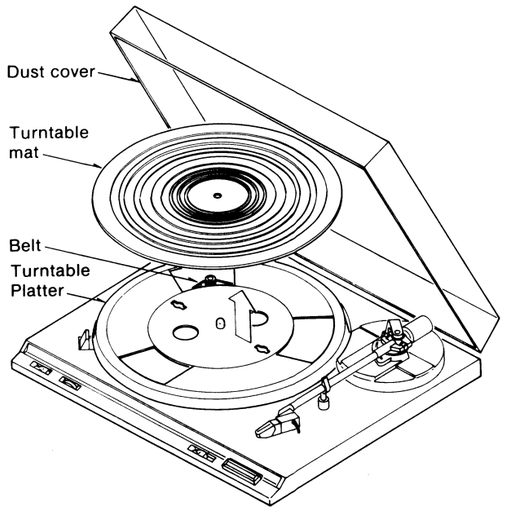
Ref. No 1	How to remove the cartridge
Procedure 1	1. Remove the setscrew ❶. 2. Pull out the cartridge, taking care that your hand does not touch the stylus tip.



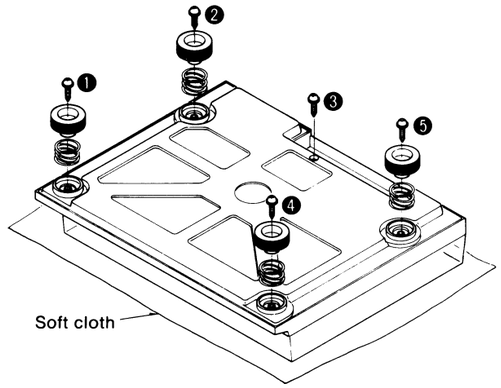
Ref. No 2	How to remove the stylus
Procedure 2	• Pull out the stylus, taking care not to touch the stylus tip.



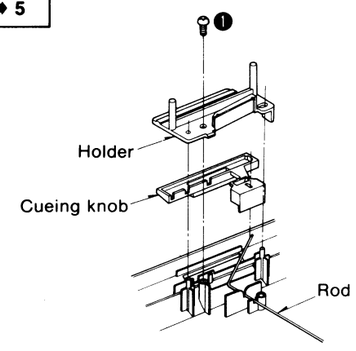
Ref. No 3	How to remove the turntable platter
Procedure 3	1. Open the dust cover and remove the turntable mat. 2. Remove the belt. 3. Lift up the turntable platter.



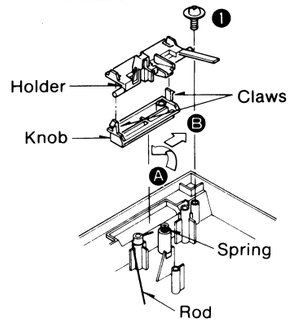
Ref. No 4	How to remove the bottom board
Procedure 3 ➧ 4	1. Turn over the unit on a soft cloth. 2. Remove the 5 setscrews (❶ ~ ❺).



Ref. No 5	How to remove the cueing knob
Procedure 3 ➧ 4 ➧ 5	• Remove the setscrew ❶.

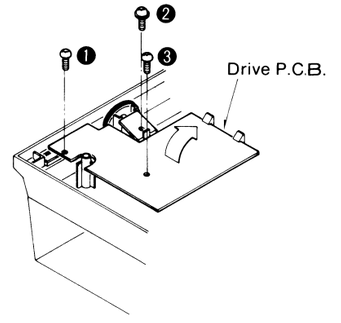


Ref. No 6	How to remove the stop switch knob
Procedure 3 ➧ 4 ➧ 6	1. Remove the setscrew ❶. 2. Remove the holder (with knob) in the direction of the arrows (Ⓐ, Ⓑ). 3. Release the 2 claws.

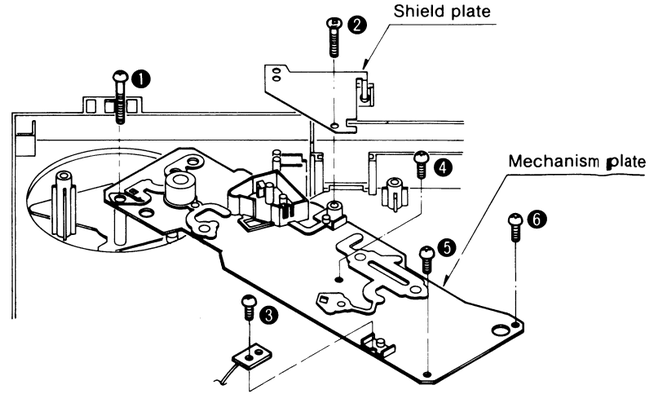


Note:
When attaching the stop knob, do not forget to attach the spring.

Ref. No 7	How to remove the drive P.C.B.
Procedure 3 ➧ 4 ➧ 7	1. Remove the 3 setscrews (❶ ~ ❸). 2. Remove the drive P.C.B. in the direction of the arrow.



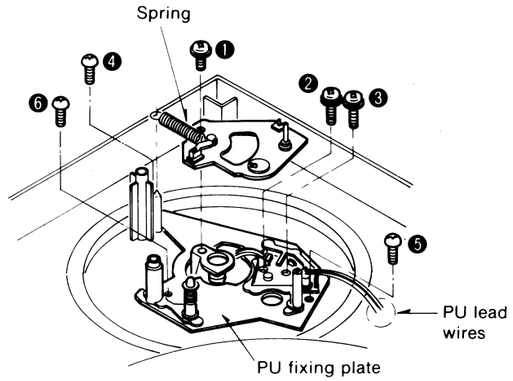
Ref. No 8	How to remove the mechanism plate
Procedure 3 ➧ 4 ➧ 8	1. Remove the 6 setscrews (❶ ~ ❻). 2. Lift up the mechanism plate.



Ref. No 9	How to remove the tonearm and PU fixing plate
Procedure 3➧4➧8➧9	

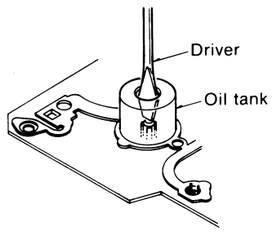
1. Unsolder the 5 PU lead wires from the phono terminal.
2. Remove the setscrew ❶ and spring.
3. To remove the tonearm, remove the 2 setscrews (❷, ❸).
4. To remove the PU fixing plate, remove the 3 setscrews (❹, ❺, ❻).

* PU lead wiring method
White .....L channel (+) terminal
Blue.....L channel (−) terminal
Red .....R channel (+) terminal
Green .....R channel (−) terminal
Black.....Ground terminal

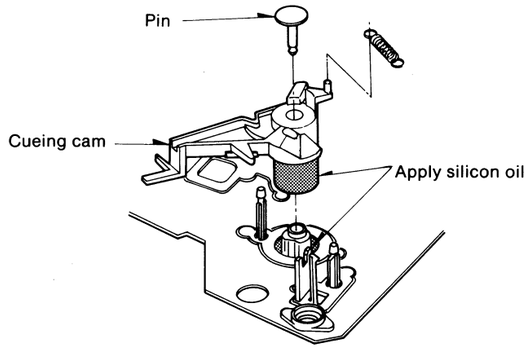


Ref. No 10	How to remove the cueing cam
Procedure 3➧4➧8➧10	

1. Push the pin with a driver.
2. Remove the pin and spring.
3. Remove the cueing cam.



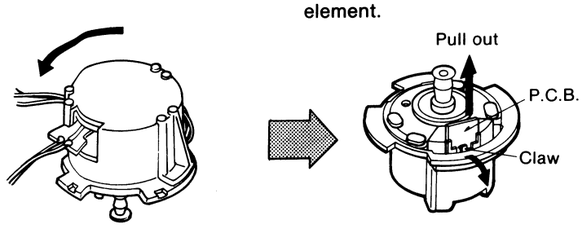
Note:
If the cueing time of the tonearm becomes too short, or if the cueing cam is replaced, apply silicon oil (Part No. SZZ0L11) according to the following procedure.
1. Remove the cueing cam.
2. Apply silicon oil to the cueing cam and oil tank.



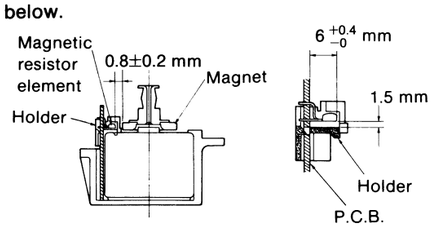
Ref. No 11	How to remove the magnetic resistor element
Procedure 3➧4➧11	

•Remove the motor assembly in the direction of the arrow.

1. Unsolder the 3 lead wires from the magnetic resistor P.C.B.
2. Release the claw and pull out the P.C.B.
3. Unsolder the 3 terminals of the magnetic resistor element.



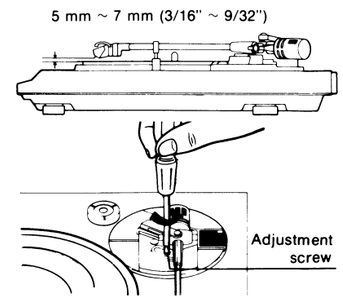
Note:
If the magnetic resistor element has been replaced, observe the following mounting precaution.
•The magnetic resistor element is supplied with the center lead bent. Be sure the seat the bent lead flush to the P.C.B.
•This will ensure the proper clearance (0.8±0.2 mm) between the magnet and the magnetic resistor element as shown below.



■ MEASUREMENTS AND ADJUSTMENTS

ARM-LIFT HEIGHT ADJUSTMENT

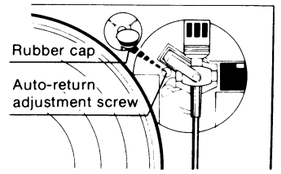
The arm-lift height (distance between the stylus tip and the record surface when the cueing control is at the "▽" position) has been adjusted at the factory to approximately 5 to 7 mm (3/16"—9/32").
If the clearance is too narrow or too wide, turn the adjustment screw clockwise or counterclockwise.
Clockwise rotation
—distance between the record and stylus tip is decreased.
Counterclockwise rotation
—distance between the record and stylus tip is increased.



AUTOMATIC RETURN ADJUSTMENT

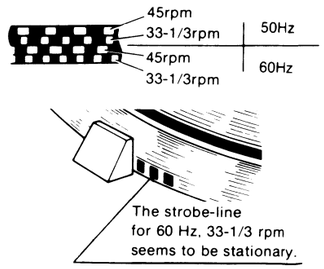
1. Clamp the tonearm to the arm rest.
2. Remove the rubber cap.
3. Turn the screw with a screwdriver, clockwise or counter-clockwise as necessary.

If the tonearm tends to return to the arm rest before the play has finished,
—turn counterclockwise.
If the tonearm fails to return after the final groove,
—turn clockwise.



SPEED ADJUSTMENT (PITCH CONTROL)

There are strobe-lines cut on this turntable platter to indicate correct rotational speed.
If the strobe-line appears to be moving as the turntable rotates, adjust while playing a record.
1. Set the speed selector to the speed to be adjusted.
2. Push the power switch. The strobe-illuminator/pilot lamp will light up and the platter will rotate.
3. Watch the dot pattern on the side of the platter. Turn the pitch control one way or the other until the dots appear to stand still. This is the correct speed.
4. Turning the pitch control in the "+" direction increases the speed.
5. Turning the pitch control in the "−" direction decreases the speed.

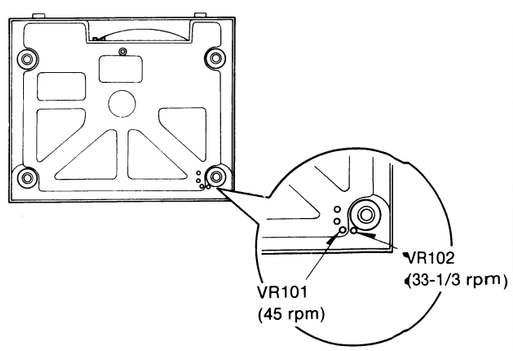


In the U.S.A. and CANADA use 60 Hz lines.
The 50 Hz lines are for European countries.

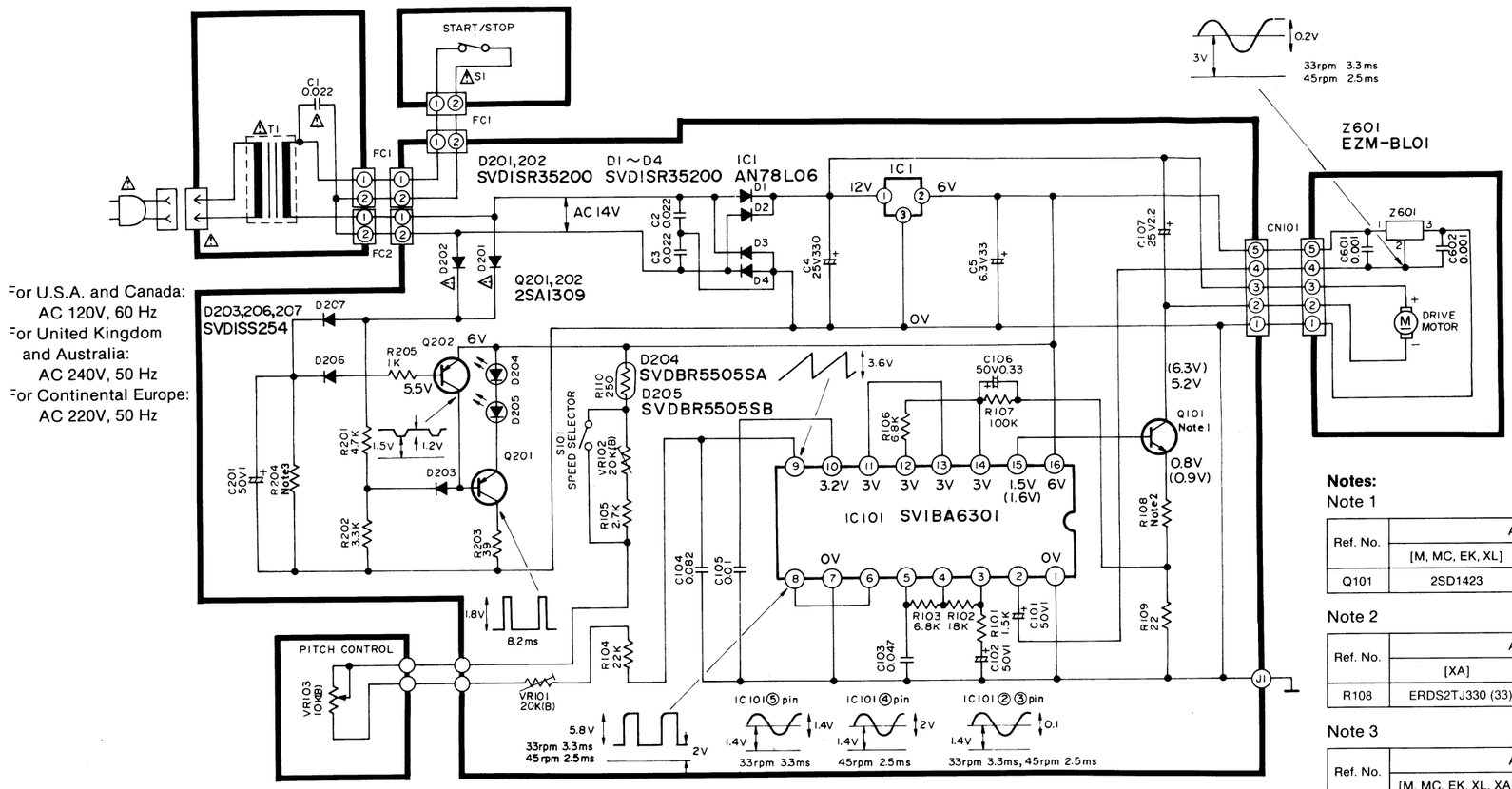
ROTATING SPEED

When the turntable drive/control IC (IC101) or the variable resistors (VR101, 102) are changed, or if the rated rotation is not reached even when the pitch control knob is turned, adjust the rotating speed in the following procedure.
1. Set the speed selector switch to the "45" position.
2. Turn VR101 with a screwdriver from the bottom of the set to the rated rotation (45 rpm) and check the rotation with a strobe while adjusting the speed.
3. Set the speed selector switch to the "33" position.
4. Turn VR102 with a screwdriver from the bottom of the set to the rated rotation (33-1/3 rpm) and check the rotation with a strobe while adjusting the speed.

Note: Be sure to make the adjustment for 45 rpm first.



■ SCHEMATIC DIAGRAM



Notes:

Note 1

Ref. No.	Areas	
	[M, MC, EK, XL]	[other]
Q101	2SD1423	2SC1383

Note 2

Ref. No.	Areas	
	[XA]	[other]
R108	ERDS2TJ330 (33)	ERDS2TJ220 (22)

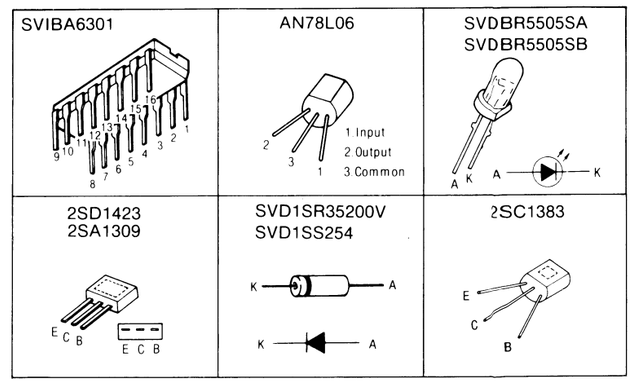
Note 3

Ref. No.	Areas	
	[M, MC, EK, XL, XA]	[other]
R204	ERDS2TJ332 (3.3 K)	ERDS2TJ562 (5.6 K)

Notes:

1. S1: Power switch in "on" position.
2. S101: Speed selector switch in "33" position.
3. The values are of the reference voltage for the turntable rotation (33 rpm) of this unit, measured by a DC voltmeter (high impedance) on the basis of chassis. So, some error might be included depending on the internal impedance of the measuring instrument and the unit measured.
   * ( ): voltage in 45 rpm.
4. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
5. VR101 is the 45 rpm speed adjustment variable resistor.
6. VR102 is the 33-1/3 rpm speed adjustment variable resistor.
7. This schematic diagram may be modified at any time with the development of new technology.

- **Terminal guide of IC's, transistors and diodes**

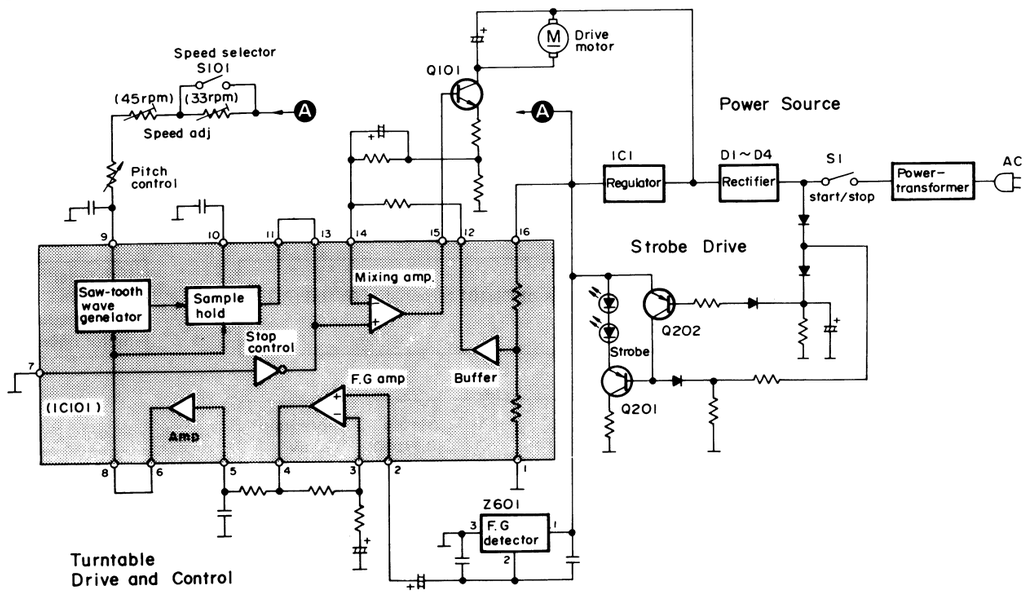


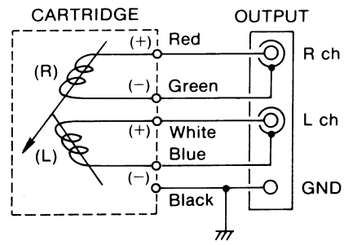
Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

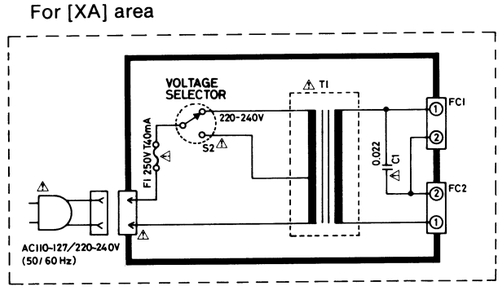
■ BLOCK DIAGRAM

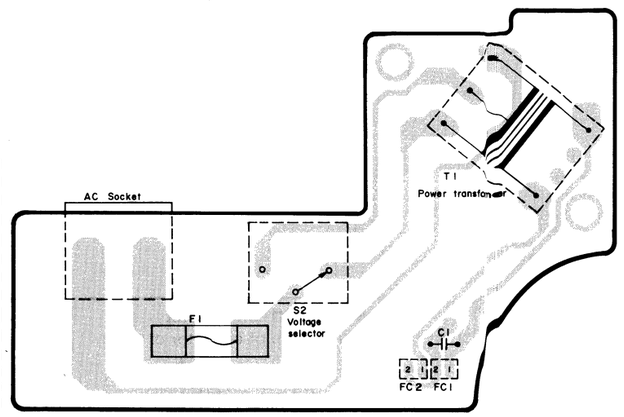




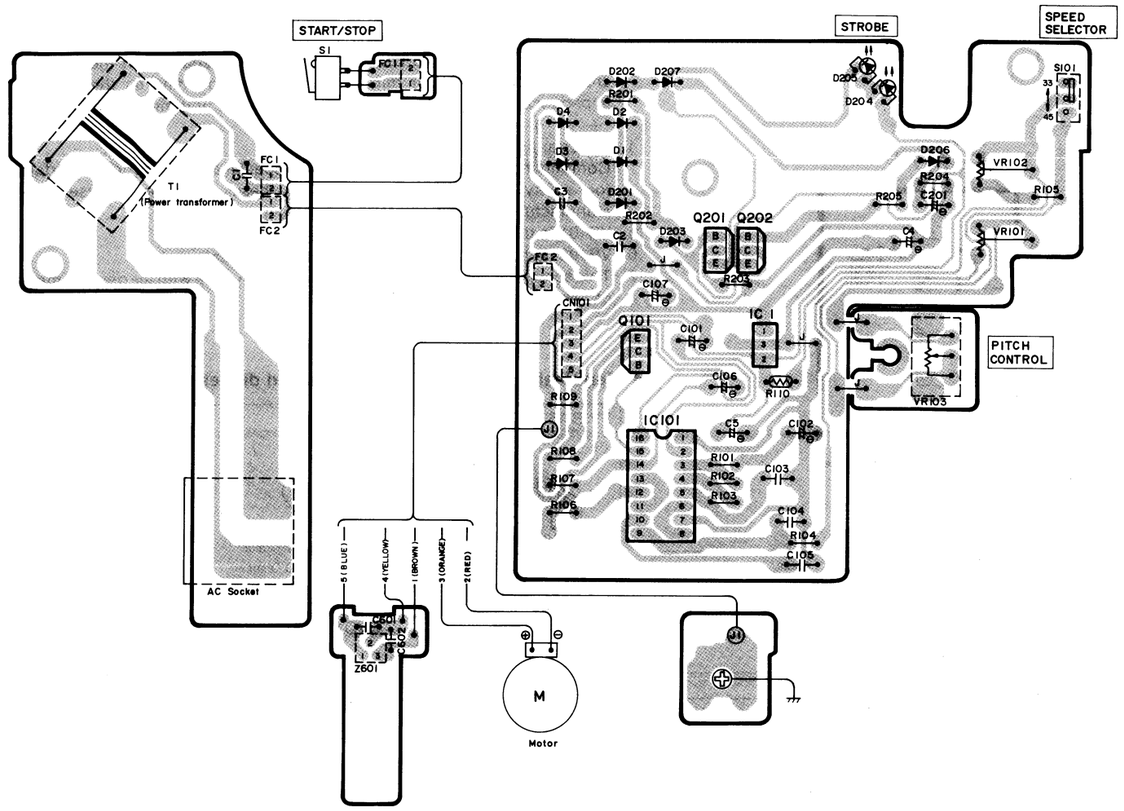
- **Power source circuit**

For [XA] area





■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



■ TROUBLESHOOTING

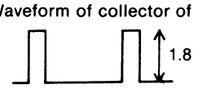
No sound comes out.

→ Check the resistance at output pin plug (left and right channels).

- 0~ a few ohms → Check if shorted circuit at pin plug or lug terminal or connector or cartridge.
- ∞ (open) → Check if opened circuit at pin plug or lug terminal or connector or cartridge.
- 500~600Ω → Check if sequently connected to amplifier or check amplifier.

Strobe LED does not indicate.

→ **Strobe LED drive circuit**
- Waveform of collector of Q201



→ Q201, 202 (Drive transistor)
D201~D207
R201~R205
} defective

Turntable does not rotate.

→ AC power plug is connected?
- No → Connect the AC power plug to an AC wall socket.
- Yes → Belt is set over the turntable capstan?
  - No → Set the belt correctly.
  - Yes → **Power source circuit**
    1. AC 14V between FC2 terminals ① and ②.
    2. DC voltage of regulator IC (IC1)
       ① 12V ② 6V ③ 0V
    3. DC voltage at terminal ⑫ of IC101 (3V).

    → T1 (Power transformer)
    S1 (Power switch)
    D1~D4 (Rectifier diode)
    IC1 (Regulator IC)
    IC101 (Drive IC)
    } defective

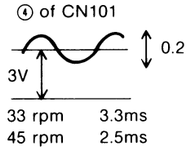
    → **Drive circuit**
    - DC voltage of drive transistor (Q101)

	Base	Collector	Emitter
33 rpm	1.5V	6.3V	0.8V
45 rpm	1.6V	5.2V	0.9V

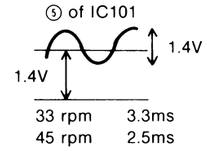
    → IC101 (Drive IC)
    Q101 (Drive transistor)
    Motor
    R108,109 (Resistor)
    } defective

Unstable rotation

→ **FG amplifier circuit**
1. Waveform of terminal ④ of CN101



2. Waveform of terminal ⑤ of IC101



→ Z601 (Magnetic resistor element)
IC101 (Control IC)
R101~R103
C101~C103
Motor
} defective

→ **Control circuit**
1. Waveform of terminal ⑧ of IC101

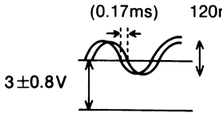
2. Waveform of terminal ⑨ of IC101

→ IC101 (Control IC) defective

Turntable rotates too fast or does not rotate.

→ 1. Conduction check of CN101 terminal of ④ and ⑤, ① and ④.
- If the reading is ∞, then Z601 defective.
- If the reading is 1_3kΩ, then motor defective.

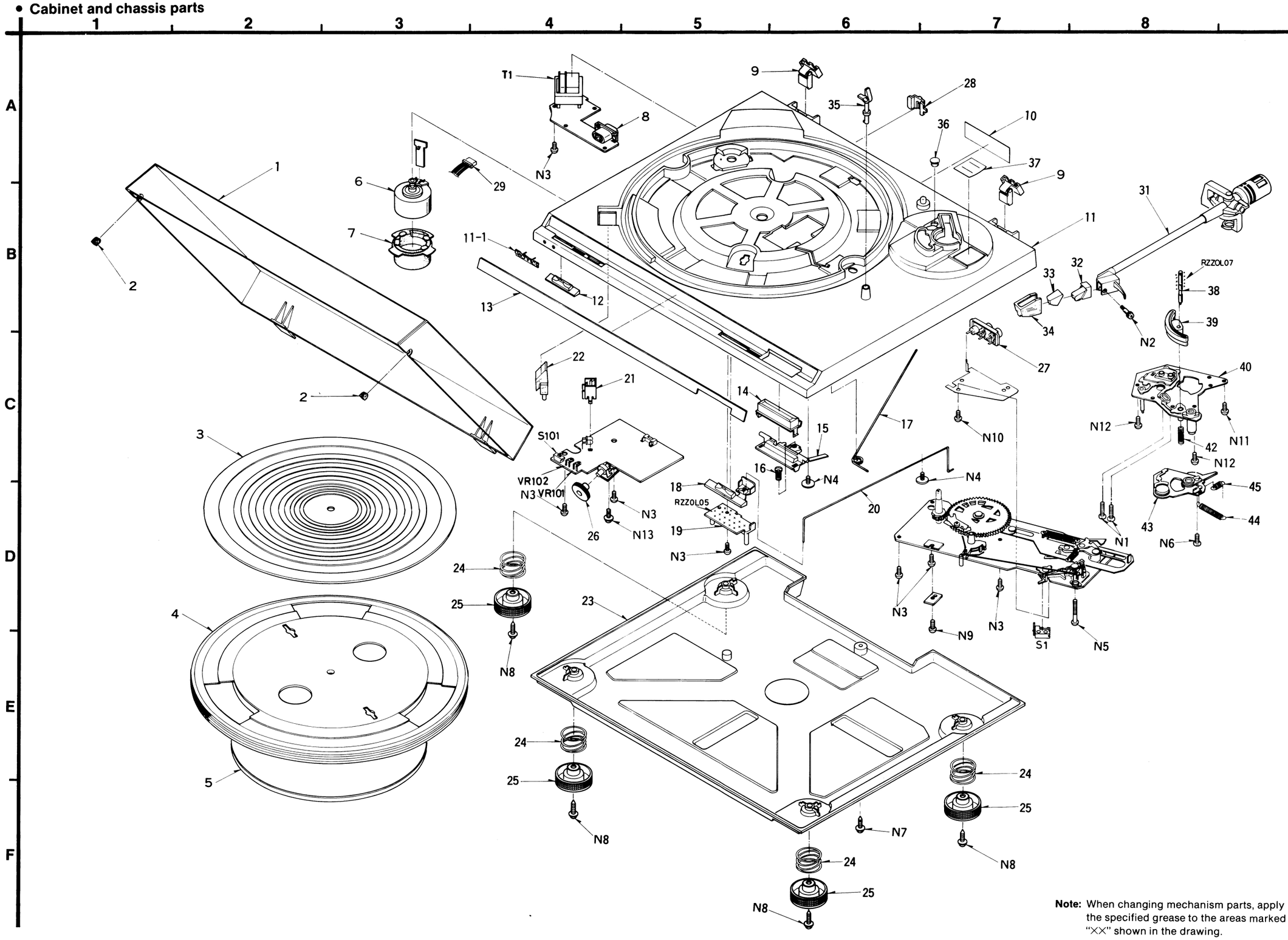
→ 1. Waveform of terminal of CN101.



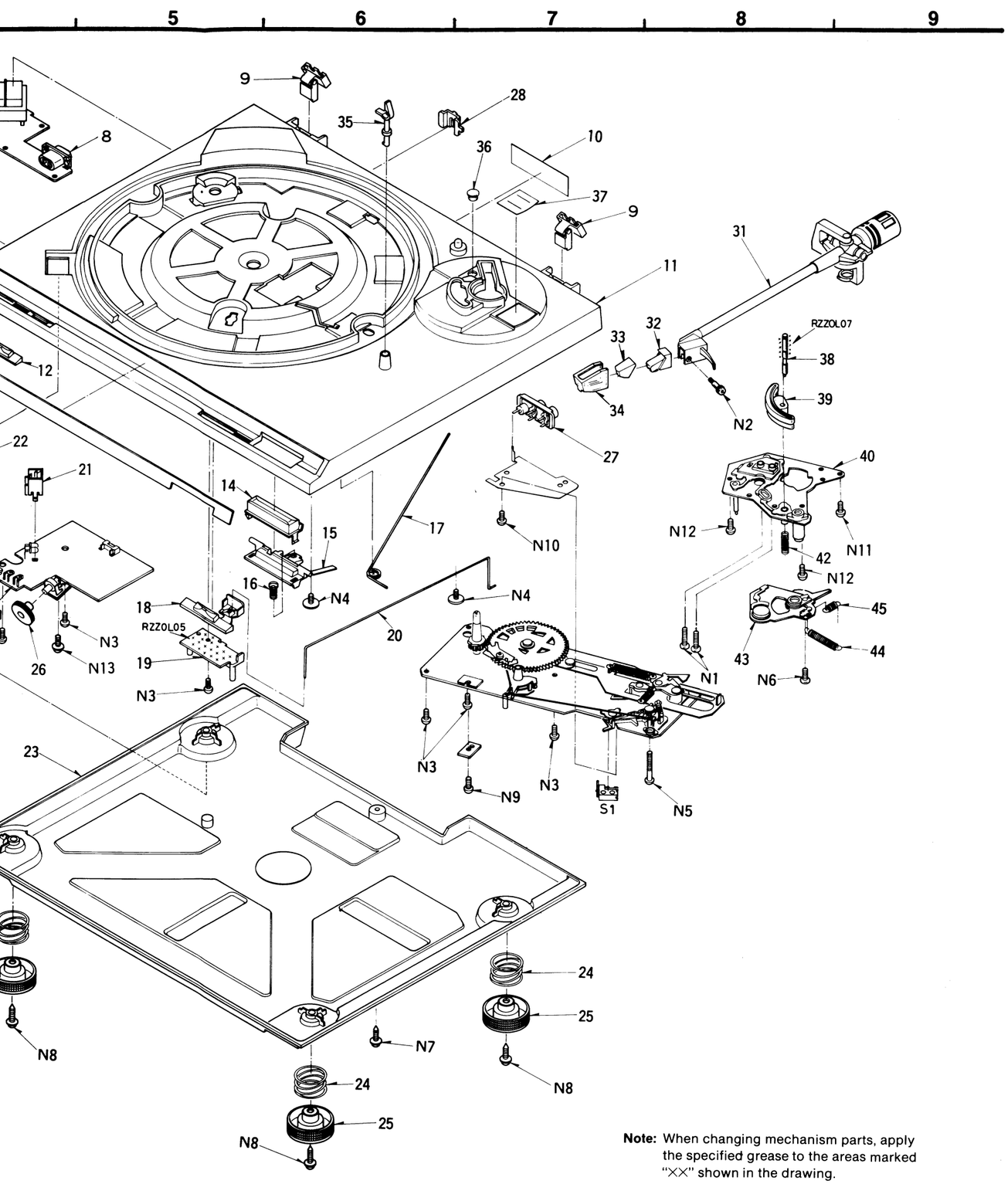
→ Refer to precautio n on page 5.

■ EXPLODED VIEW

• Cabinet and chassis parts

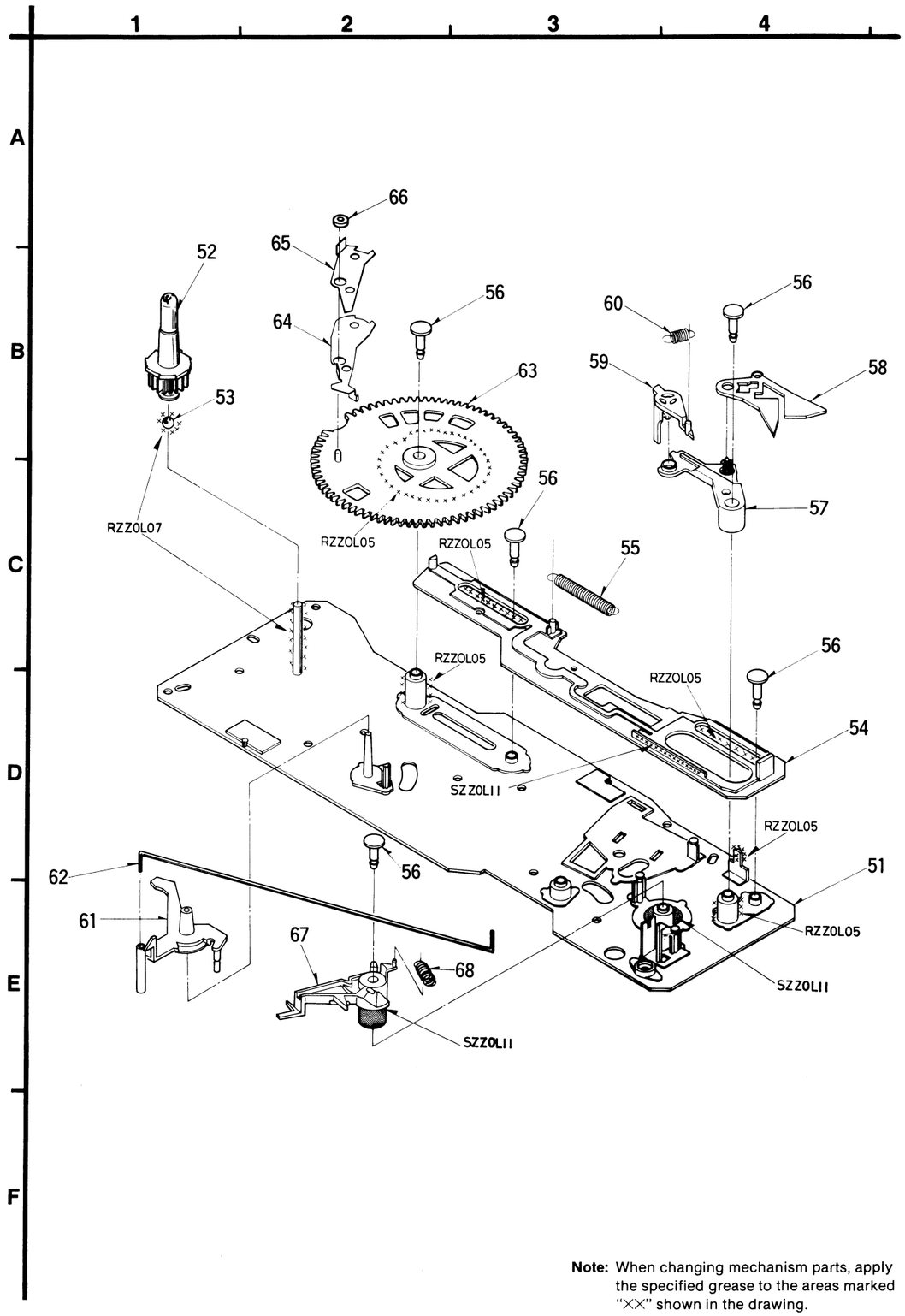


Note: When changing mechanism parts, apply the specified grease to the areas marked "XX" shown in the drawing.



Note: When changing mechanism parts, apply the specified grease to the areas marked "XX" shown in the drawing.

• **Mechanism parts**



Note: When changing mechanism parts, apply the specified grease to the areas marked "XX" shown in the drawing.

■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ-marked parts are used for black type only, while ○-marked parts are used for silver type only.
4. Parts other than Ⓚ- and ○-marked are used for both black and silver types.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The "Ⓢ" mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity per set.

Color	Areas
(S) (K)	[M] ..... U.S.A.
(S) (K)	[MC] ... Canada.
(S) (K)	[E] ..... Switzerland and Scandinavia.
(S) (K)	[EK] .... United Kingdom.
(S) (K)	[XL] .... Australia.
(S) (K)	[EG] ... F.R. Germany.
(S) (K)	[EB] .... Belgium.
(S) (K)	[EH] .... Holland.
(S) (K)	[EF] .... France.
(S) (K)	[Ei] ..... Italy.
(S) (K)	[EC] .... Czechoslovakia.
(S) (K)	[XA] .... Southeast Asia, Oceania, Africa, Middle Near East and Central South America.

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC1	AN78L06	Regulator
IC101	SVIBA6301	FG Servo
TRANSISTORS		
Q101 [M, MC, EK, XL]	2SD1423	Switching
Q101 [other]	2SC1383	Switching
Q201, 202	2SA1309	Strobe Drive
DIODES		
D1~4	⚠SVD1SR35200V	Rectifier
D201, 202	⚠SVD1SR35200V	Rectifier
D203	SVD1SS254	Switching
D204	SVDBR5505SA	Strobe, LED
D205	SVDBR5505SB	Strobe, LED
D206, 207	SVD1SS254	Switching
SWITCHES		
S1	⚠SFDSD72R01	Power
S2 [XA] only	⚠SFDSHXW02067	Voltage Selector
S101	SFDSHSW0834	Speed Selector
VARIABLE RESISTORS		
VR101, 102	EVN61AA00B24	Speed Adjustment, 20 kΩ (B)
VR103	EVJE1AF20B14	Pitch Control, 10 kΩ (B)
MAGNETIC RESISTOR ELEMENT		
Z601	EZM-BL01	F.G Detector
FUSE		
F1 [XA] only	⚠XBA2C004T1B	250V, T40 mA
POWER TRANSFORMER		
T1 [M]	⚠SLT35KL5B	Power Source
T1 [MC]	⚠SLT35K97C	Power Source
T1 [EK, XL]	⚠SLT35KE61E	Power Source
T1 [XA]	⚠SLT35KE62E	Power Source
T1 [other]	⚠SLT35K64E	Power Source

Ref. No.	Part No.	Description
THERMISTER		
R110	ERTD2ZFK251S	250Ω
RESISTORS		
R101	ERDS2TJ152	Carbon, 1/4W, 1.5kΩ, ±5%
R102	ERDS2TJ183	Carbon, 1/4W, 18kΩ, ±5%
R103	ERDS2TJ682	Carbon, 1/4W, 6.8kΩ, ±5%
R104	ERDS2TJ223	Carbon, 1/4W, 22kΩ, ±5%
R105	ERDS2TJ272	Carbon, 1/4W, 2.7kΩ, ±5%
R106	ERDS2TJ682	Carbon, 1/4W, 6.8kΩ, ±5%
R107	ERDS2TJ104	Carbon, 1/4W, 100kΩ, ±5%
R108 [XA]	ERDS2TJ330	Carbon, 1/4W, 33Ω, ±5%
R108 [other]	ERDS2TJ220	Carbon, 1/4W, 22Ω, ±5%
R109	ERDS2TJ220	Carbon, 1/4W, 22Ω, ±5%
R201	ERDS2TJ472	Carbon, 1/4W, 4.7kΩ, ±5%
R202	ERDS2TJ332	Carbon, 1/4W, 3.3kΩ, ±5%
R203	ERDS2TJ390	Carbon, 1/4W, 39Ω, ±5%
R204 [M, MC, EK, XL, XA]	ERDS2TJ562	Carbon, 1/4W, 5.6kΩ, ±5%
R204 [other]	ERDS2TJ332	Carbon, 1/4W, 3.3kΩ, ±5%
R205	ERDS2TJ102	Carbon, 1/4W, 1kΩ, ±5%
CAPACITORS		
C1	⚠ECQG1223KZ	Polyester, 100V, 0.022μF, ±10%
C2, 3	⚠ECKR1H223ZF	Ceramic, 50V, 0.022μF, +80 −20 %
C4	ECEA1EU331	Electrolytic, 25V, 330μF
C5	ECEA0JU330	Electrolytic, 6.3V, 33μF
C101, 102	ECEA1HU010	Electrolytic, 50V, 1μF
C103	ECQG1H473KZT	Polyester, 50V, 0.047μF, ±10%

Ref. No.	Part No.	Description
C104	ECQP2A823JZW	Polypropylene, 200V, 0.082μF, ±5%
C105	ECQG1H103KZT	Polyester, 50V, 0.01μF, ±10%
C106	ECEA1HUR33	Electrolytic, 50V, 0.33μF
C107	ECEA1EU2R2	Electrolytic, 25V, 2.2μF
C201	ECEA1HU010	Electrolytic, 50V, 1μF
C601, 602	ECUX1H102MBM	Chip Ceramic, 50V, 0.001μF, ±20%
CABINET AND CHASSIS PARTS		
1	SFADZ15R01	Dust Cover (1)
2	SFGZD04N01	Rubber Cushion, Dust Cover (2)
3	SFTGB93M01	Turntable Mat (1)
4	SFTEBD2N01	Turntable Platter (1)
5	SFGBZ15R01	Belt (1)
6	SDMB5E	Motor Ass'y (1)
7	SHGB7	Cushion Rubber, Motor (1)
8	⚠SFDJHSC0515	AC Socket (1)
9	SFATZ15R01A	Hinge (2)
10 [M]	SGTB42	Name Plate (1)
10 [MC]	SGTB43	Name Plate (1)
10 [E, EC]	SGTB44	Name Plate (1)
10 [EK]	SGTB45	Name Plate (1)
10 [XL]	SGTB46	Name Plate (1)
10 [EG]	SGTB47	Name Plate (1)
10 [XA]	SGTB49	Name Plate (1)
10 [other]	SGTB48	Name Plate (1)
11 ○	SKMLBD22-SE	Cabinet With Badge (1)
11 Ⓚ	SKMLBD22-KM	Cabinet With Badge (1)
11-1 ○	SGB628	Badge (1)
11-1 Ⓚ	SGB628-1	Badge (1)
12 ○	SFKTBD2N03	Knob, Speed Selector (1)
12 Ⓚ	SBCB70-0C	Knob, Speed Selector (1)
13	SGXB110-1	Ornament Plate (1)
14 ○	SFKTBD2N01	Knob, Stop (1)
14 Ⓚ	SBCB30-0C	Knob, Stop (1)
15	SFUMBD2N01	Base, Stop Knob (1)
16	SFQHZ15R01	Spring (1)
17	SFUZZ15R01	Rod, Stop Knob (1)

Ref. No.	Part No.	Description
18 ○	SBCB60-0S	Knob, Cueing (1)
18 Ⓚ	SBCB60-0C	Knob, Cueing (1)
19	SKMB140	Bracket, Cueing Knob (1)
20	STZB4	Rod, Cueing (1)
21	SFUMBD2N06	Holder, LED (1)
22	SFUMBD2N07	Strobe (1)
23	SKUB3-1	Bottom Cover (1)
24	SUSB38	Spring, Insulator (4)
25	SKLB3	Insulator (4)
26 ○	SFKTBD2N04	Knob, Speed Adjuster (1)
26 Ⓚ	SBCB80-0C	Knob, Speed Adjuster (1)
27	SFDJBD2N03	Jack, Output (1)
28 ○	SKMB160-0S	Cover (1)
28 Ⓚ	SKMB160-0K	Cover (1)
29	SWKBB42051	Connector Ass'y (5P) (1)
TONEARM PARTS		
31 [M, MC, XA]	SFAB5A	Tonearm Ass'y (1)
31 [other]	SFAB14A	Tonearm Ass'y (1)
32 [except M, MC]	EPC-P24S	★Cartridge (1)
33 [except M, MC]	EPS-24CS	★Stylus (1)
34 [except M, MC]	SFCNC05101	Cover, Stylus (1)
35	SHRB14	Tonearm Rest (1)
36 ○	SFGK170-01	Cap (1)
36 Ⓚ	SFGK171F01	Cap (1)
37	SGXB60	Plate, Canceller (1)
38	SFXJBD2N51	Shaft, Lift Arm (1)
39	SFUMBD2N51	Lift Arm (1)
40	SFUPBD2N51E	Arm Base (1)
42	SUSB12	Spring (1)
43	SFUPBD2N52E	Plate, Pick-up Fixing (1)
44	SFQHZ15R55	Spring (1)
45	SFQHZ15R61	Spring (1)

Ref. No.	Part No.	Description
MECHANISM PARTS		
51	SUKB4E	Mechanism Plate (1)
52	SDWB1A	Turntable Shaft (1)
53	SFYB-5-32	Ball (1)
54	SFUBZ15R51	Plate, Drive (1)
55	SFQHZ15R64	Spring, Drive Plate (1)
56	SFUMZ15R56	Pin (5)
57	SFUMZ15R54	Switch Lever (A) (1)
58	SFUMBD2N52	Switch Lever (B) (1)
59	SFUMZ15R59	Switch Lever (C) (1)
60	SFQHZ15R62	Spring (1)
61	SFUMZ15R52	Lever, Actuating (1)
62	SFQSZ15R51	Rod, Actuating (1)
63	SFUGZ15R51	Main Gear (1)
64	SFURZ15R52	Rink (A), Main Gear (1)
65	SFURZ15R51	Rink (B), Main Gear (1)
66	SFUMZ15R61	Washer (1)
67	SHRB11	Cam, Cueing (1)
68	SFQHZ15R63	Spring (1)
SCREWS		
N1	SNSB1	Screw (2)
N2	SFPEV0Q601	Screw, Cartridge (1)
N3	XTV3+10G	Screw, ⊕3×10 (7)
N4	SFXGQ06N01	Screw (2)
N5	XTV3+30J	Screw, ⊕3×30 (1)
N6	XYC3+CG10	Screw, ⊕3×10 (1)
N7	XTW3+14QFYR	Screw, ⊕3×14 (1)
N8	SNSB3	Screw (4)
N9	XYE3+EJ8	Screw, ⊕3×8 (1)
N10	XTV3+16J	Screw, ⊕3×16 (1)
N11	XTV3+6G	Screw, ⊕3×6 (1)
N12	XTV3+8G	Screw, ⊕3×8 (2)
N13	XTW3+10Q	Screw, ⊕3×10 (1)

Ref. No.	Part No.	Description
ACCESSORIES		
A1 [M]	SQX53772	Instruction Book (1)
A1 [MC]	SQXLBD22-SMC	Instruction Book (1)
A1 [EG]	SQX53803	Instruction Book (1)
A1 [Ei]	SQX53776	Instruction Book (1)
A1 [other]	SQXLBD22-SE	Instruction Book (1)
A2	SFDHBD2N01	Output Cord (1)
A3	SFDLJ11N01E	Ground Wire (1)
A4	SFWE212-01	45 Adaptor (1)
A5 [M, MC]	⚠SJA170	AC Cord (1)
A5 [XL]	⚠SJA163	AC Cord (1)
A5 [EK]	⚠SFDAC05G02	AC Cord (1)
A5 [XA]	⚠SJA168-1	AC Cord (1)
A5 [other]	⚠SFDAC05E02	AC Cord (1)
A6 [XA] only	⚠SJP9215	Adaptor (1)
PACKING PARTS		
P1 [M] ○	SPGB23	Carton Box (1)
P1 [M] Ⓚ	SPGB20	Carton Box (1)
P1 [MC] ○	SPGB24	Carton Box (1)
P1 [MC] Ⓚ	SPGB21	Carton Box (1)
P1 [EF] ○	SPGB58	Carton Box (1)
P1 [EF] Ⓚ	SPGB56	Carton Box (1)
P1 [other] ○	SPGB57	Carton Box (1)
P1 [other] Ⓚ	SPGB55	Carton Box (1)
P2	SPSB4	Pad, Left (1)
P3	SPSB5	Pad, Right (1)
P4	SPEB3	Clamper, Turntable (2)
P5	SPEB2	Clamper, Tonearm (1)
P6	SPPB1	Polyethylene Bag, Dust Cover (1)
P7	SFYH60×60	Polyethylene Bag, Unit (1)
P8	SFYF32A35	Polyethylene Bag, Turntable Mat (1)
P9	SFHDBD2N01	Pad, Turntable Mat (1)
P10	SPEB4	Pad, Tonearm Weight (1)

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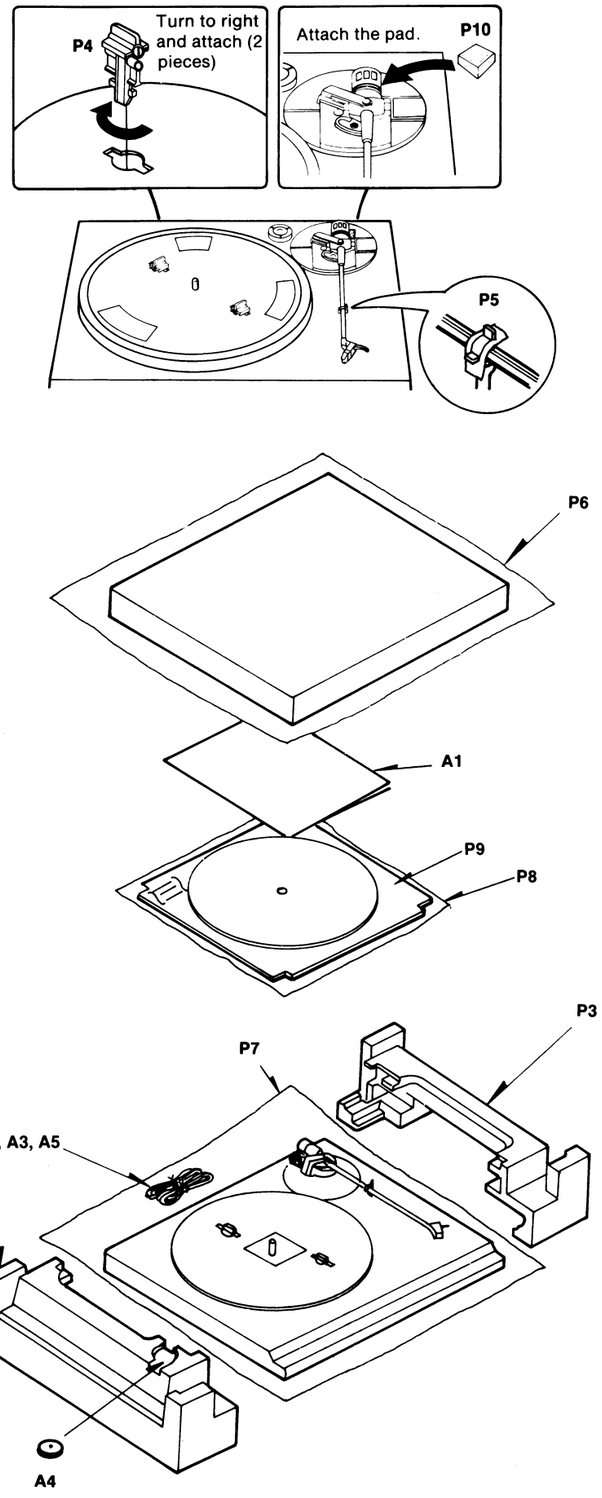
Description	
Polypropylene, 200V, 0.082μF, ±5%	
Polyester, 50V, 0.01μF, ±10%	
Electrolytic, 50V, 0.33μF	
Electrolytic, 25V, 2.2μF	
Electrolytic, 50V, 1μF	
Chip Ceramic, 50V, 0.001μF, ±20%	
ARTS	
Dust Cover	(1)
Rubber Cushion, Dust Cover	(2)
Turntable Mat	(1)
Turntable Platter	(1)
Belt	(1)
Motor Ass'y	(1)
Cushion Rubber, Motor	(1)
AC Socket	(1)
Hinge	(2)
Name Plate	(1)
Name Plate	(1)
Name Plate	(1)
Name Plate	(1)
Name Plate	(1)
Name Plate	(1)
Name Plate	(1)
Name Plate	(1)
Cabinet With Badge	(1)
Cabinet With Badge	(1)
Badge	(1)
Badge	(1)
Knob, Speed Selector	(1)
Knob, Speed Selector	(1)
Ornament Plate	(1)
Knob, Stop	(1)
Knob, Stop	(1)
Base, Stop Knob	(1)
Spring	(1)
Rod, Stop Knob	(1)

Ref. No.		Part. No.	Description	
18	○	SBCB60-0S	Knob, Cueing	(1)
18	Ⓚ	SBCB60-0C	Knob, Cueing	(1)
19		SKMB140	Bracket, Cueing Knob	(1)
20		STZB4	Rod, Cueing	(1)
21		SFUMBD2N06	Holder, LED	(1)
22		SFUMBD2N07	Strobe	(1)
23		SKUB3-1	Bottom Cover	(1)
24		SUSB38	Spring, Insulator	(4)
25		SKLB3	Insulator	(4)
26	○	SFKTBD2N04	Knob, Speed Adjuster	(1)
26	Ⓚ	SBCB80-0C	Knob, Speed Adjuster	(1)
27		SFDJBD2N03	Jack, Output	(1)
28	○	SKMB160-0S	Cover	(1)
28	Ⓚ	SKMB160-0K	Cover	(1)
29		SWKBB42051	Connector Ass'y (5P)	(1)
TONEARM PARTS				
31 [M, MC, XA]		SFAB5A	Tonearm Ass'y	(1)
31 [other]		SFAB14A	Tonearm Ass'y	(1)
32 [except M, MC]		EPC-P24S	★Cartridge	(1)
33 [except M, MC]		EPS-24CS	★Stylus	(1)
34 [except M, MC]		SFCNC05101	Cover, Stylus	(1)
35		SHRB14	Tonearm Rest	(1)
36	○	SFGK170-01	Cap	(1)
36	Ⓚ	SFGK171F01	Cap	(1)
37		SGXB60	Plate, Canceller	(1)
38		SFXJBD2N51	Shaft, Lift Arm	(1)
39		SFUMBD2N51	Lift Arm	(1)
40		SFUPBD2N51E	Arm Base	(1)
42		SUSB12	Spring	(1)
43		SFUPBD2N52E	Plate, Pick-up Fixing	(1)
44		SFQHZ15R55	Spring	(1)
45		SFQHZ15R61	Spring	(1)

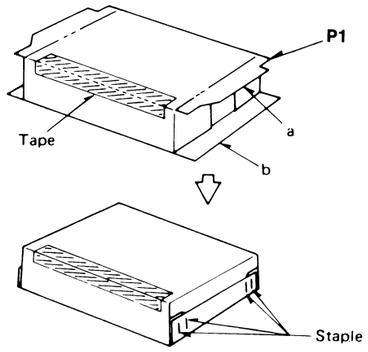
Ref. No.	Part. No.	Description	
MECHANISM PARTS			
51	SUKB4E	Mechanism Plate	(1)
52	SDWB1A	Turntable Shaft	(1)
53	SFYB-5-32	Ball	(1)
54	SFUBZ15R51	Plate, Drive	(1)
55	SFQHZ15R64	Spring, Drive Plate	(1)
56	SFUMZ15R56	Pin	(5)
57	SFUMZ15R54	Switch Lever (A)	(1)
58	SFUMBD2N52	Switch Lever (B)	(1)
59	SFUMZ15R59	Switch Lever (C)	(1)
60	SFQHZ15R62	Spring	(1)
61	SFUMZ15R52	Lever, Actuating	(1)
62	SFQSZ15R51	Rod, Actuating	(1)
63	SFUGZ15R51	Main Gear	(1)
64	SFURZ15R52	Rink (A), Main Gear	(1)
65	SFURZ15R51	Rink (B), Main Gear	(1)
66	SFUMZ15R61	Washer	(1)
67	SHRB11	Cam, Cueing	(1)
68	SFQHZ15R63	Spring	(1)
SCREWS			
N1	SNSB1	Screw	(2)
N2	SFPEV0Q601	Screw, Cartridge	(1)
N3	XTV3+10G	Screw, ⊕3×10	(7)
N4	SFXGQ06N01	Screw	(2)
N5	XTV3+30J	Screw, ⊕3×30	(1)
N6	XYC3+CG10	Screw, ⊕3×10	(1)
N7	XTW3+14QFYR	Screw, ⊕3×14	(1)
N8	SNSB3	Screw	(4)
N9	XYE3+EJ8	Screw, ⊕3×8	(1)
N10	XTV3+16J	Screw, ⊕3×16	(1)
N11	XTV3+6G	Screw, ⊕3×6	(1)
N12	XTV3+8G	Screw, ⊕3×8	(2)
N13	XTW3+10Q	Screw, ⊕3×10	(1)

Ref. No.	Part. No.	Description	
ACCESSORIES			
A1 [M]	SQX53772	Instruction Book	(1)
A1 [MC]	SQXLBD22-SMC	Instruction Book	(1)
A1 [EG]	SQX53803	Instruction Book	(1)
A1 [Ei]	SQX53776	Instruction Book	(1)
A1 [other]	SQXLBD22-SE	Instruction Book	(1)
A2	SFDHBD2N01	Output Cord	(1)
A3	SFDLJ11N01E	Ground Wire	(1)
A4	SFWE212-01	45 Adaptor	(1)
A5 [M, MC]	⚠SJA170	AC Cord	(1)
A5 [XL]	⚠SJA163	AC Cord	(1)
A5 [EK]	⚠SFDAC05G02	AC Cord	(1)
A5 [XA]	⚠SJA168-1	AC Cord	(1)
A5 [other]	⚠SFDAC05E02	AC Cord	(1)
A6 [XA] only	⚠SJP9215	Adaptor	(1)
PACKING PARTS			
P1 [M]	○ SPGB23	Carton Box	(1)
P1 [M]	Ⓚ SPGB20	Carton Box	(1)
P1 [MC]	○ SPGB24	Carton Box	(1)
P1 [MC]	Ⓚ SPGB21	Carton Box	(1)
P1 [EF]	○ SPGB58	Carton Box	(1)
P1 [EF]	Ⓚ SPGB56	Carton Box	(1)
P1 [other]	○ SPGB57	Carton Box	(1)
P1 [other]	Ⓚ SPGB55	Carton Box	(1)
P2	SPSB4	Pad, Left	(1)
P3	SPSB5	Pad, Right	(1)
P4	SPEB3	Clamper, Turntable	(2)
P5	SPEB2	Clamper, Tonearm	(1)
P6	SPPB1	Polyethylene Bag, Dust Cover	(1)
P7	SFYH60×60	Polyethylene Bag, Unit	(1)
P8	SFYF32A35	Polyethylene Bag, Turntable Mat	(1)
P9	SFHDBD2N01	Pad, Turntable Mat	(1)
P10	SPEB4	Pad, Tonearm Weight	(1)

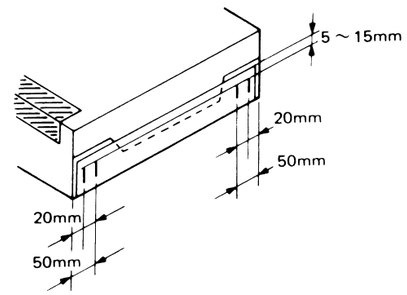
■ PACKING



1. Place the unit (with cushions attached) as illustrated.
2. Fold the flaps according to the line marks.
3. Seal the top with adhesive tape.
   - Use gum tape or adhesive cloth tape of 50mm wide at least.
4. For the edges, first fold the flap "a" and then flap "b", and staple. Remember to staple only flap "b". (Use 15 or 16mm staple.)



- Stapling positions are shown below.



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